

AMATEUR RADIO

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

OCTOBER
1949

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| 6SA7 | RK34 | 12J5 | 2A3 |
| 6AC7 | | | |

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AMATEUR RADIO

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Melbourne, C.1

EDITORIAL



THE AMATEUR'S CODE

Many years ago, somewhere about the time the A.R.R.L. came into existence, some very wise men laid down a code of ethics for the Radio Amateur. The times and techniques have changed, but one thing remains unchanged—the Amateurs' Code. For the benefit of those who have forgotten and the edification of those who don't know it, we present it in all its brevity and truth.

1—THE AMATEUR IS GENTLEMANLY.

He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the pledges given by the W.I.A. on his behalf to the public and the Government.

2—THE AMATEUR IS LOYAL.

He owes his Amateur Radio to the W.I.A. and the I.A.R.U., and he offers it his unswerving loyalty.

3—THE AMATEUR IS PROGRESSIVE.

He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.

4—THE AMATEUR IS FRIENDLY.

Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance and co-operation for the broadcast listener; these are marks of the Amateur Spirit.

5—THE AMATEUR IS BALANCED.

Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school or his community.

6—THE AMATEUR IS PATRIOTIC.

His knowledge and his station are always ready for the service of his country and his community.

The above principles should need no clarification—it is there in all its stark truth. Read and inwardly digest. If your memory is good, remember well—if it isn't, cut this out and keep it on your operating desk.

—W. T. S. M.

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GAIN. English Metro-
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scale. Bound new in
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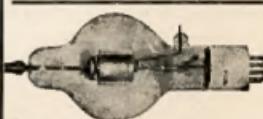
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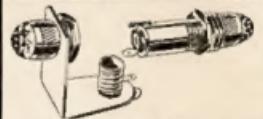
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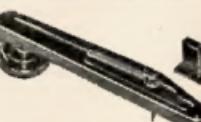
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Central 4311

Compact 75 Watt Modulator

A & R Modulators, Type M2-75 and M3-75, are complete units (less power supplies) designed for voice frequency modulation of a transmitter, and each is capable of 75 watts audio output at the secondary of the modulation transformer when terminated in a suitable load, and used in conjunction with adequate power supply equipment.

The units are available ready for use (less valves and cabinet), assembled, wired and tested, and any or all of the major components may be purchased separately. The chassis, panel, handles, and brackets, etc., are also supplied separately in sets.

Both types are similar, except that M2-75 includes a two stage pre-amplifier for use with a high impedance microphone and M3-75 is provided with a 600 ohm line input transformer (no pre-amp.) requiring an input level of 1 milliwatt or 0.75 volt (zero d.b.m.) for full output.

Each unit of either type includes a negative peak clipping circuit with a special filament transformer for the valve.

The modulator circuit is based on information appearing originally in R.C.A. "Ham Tips," reprinted in "Amateur Radio," August, 1948, and "Radiotronics," July-August, 1949, showing a method of using 807 valves as zero bias Class B modulators. Tests have proved that this system produces the results

Here are the details of a compact 75 Watt Modulator, based on the circuit, of 807's as zero bias Class B triodes, that appeared in "Amateur Radio," August, 1948. A & R Electronic Equipment Co. Pty. Ltd. advise that they are now manufacturing Modulation Equipment suitable for use by Amateurs, and provide the following information, illustrations, circuit, etc.

tions were made to the original circuit in order to produce the required frequency response. The pre-amplifier provides sufficient gain for most high impedance type microphones.

Test results were as follows:—

The frequency response was taken overall from the input of the driver valve to the secondary of the modulation transformer, terminated in a resistive load of 10,000 ohms, and with 100 Ma. d.c. through secondary winding.

At full output of 75 watts the frequency response was within 1.5 db from 200 to 7,000 c.p.s. The distortion present at full output over the frequency range was quite low and aural tests

showed that the speech quality was excellent. The response of the pre-amplifier stages can be modified to suit a particular microphone by altering the coupling condenser values and in the case of a crystal microphone by reducing the resistor value from grid to earth on the first valve. It will be noted that the low frequency response falls off below 200 c.p.s., the transformers being designed to aid in this respect.

Reduction of the high frequency response and harmonics produced by the negative peak clipping valve is also desirable, and can be achieved by the use of a filter or a degree by a suitable by-pass condenser.

It is well known that speech waveform is of a very peaky nature, and this means generally that either a low average modulation level must be tolerated, or some means must be provided to overcome this limitation. Without suitable precautions, an increase of the audio gain above a certain level will cause some of the higher negative voltage peaks at the modulation transformer secondary to exceed the final r.f. stage d.c. plate voltage. This will reduce the effective voltage acting on the r.f. stage to zero for the period of time that there is no positive voltage applied, thus causing discontinuity of the carrier power and so-called splatter takes place.

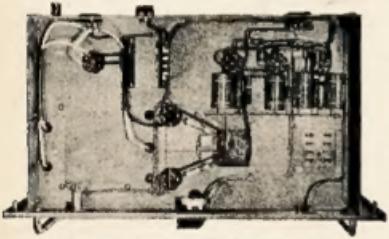
Volume compression and a.m.c. circuits reduce the peaks and increase the average modulation, but the time constants normally used allow high speed

speech peaks of some frequencies to pass through to the modulator output circuit. The solution to this is to add a high level negative peak clipping valve with a low pass filter following.

The negative peak clipping circuit is included in the modulator so that those who use the equipment will be provided with the basis for possible improvement of their transmissions if they desire a high average modulation level with minimum interference to other stations.

It is not claimed that the best results will be possible without a low pass filter between the modulation transformer and the r.f. final stage of the transmitter, although useful suppression of high frequency response can be obtained by providing as large a capacitance as possible (2,000 v. w.) in the position marked CX in the circuit. A filter, if used, will carry the final stage d.c. current and the audio frequency currents. The condensers and reactors should be able to withstand the maximum working voltage continuously; i.e., approximately 2,000 volts r.m.s. at full audio output and 1,000 volts d.c. It is best to use "air core" reactors for the reason that less trouble will be experienced from noisy operation under heavy modulation.

Details of the design and operation of suitable filters, and of other methods of reducing the r.f. channel width will be found in "QST," April, 1948; R.S.



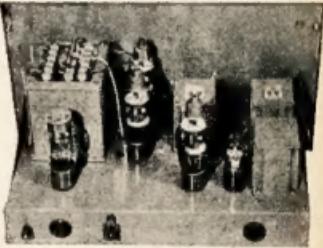
Underneath view of the Unit.

claimed and does this without the usual complications of bias and screen voltages, etc.

Considering the popularity and low price of 807 valves, this circuit has much to commend it. In designing the mechanical layout of the modulator, it was apparent that the most useful and universal arrangement would be a standard 19" x 10" rack mounting panel and chassis, as this can also be mounted in a metal cabinet, which is available for this panel size.

External finish of the equipment is grey brocade, with chrome plated handles and panel screws.

A complete modulator unit with pre-amplifier was designed, built and tested as a prototype, and all relevant tests were made including actual operation with a 100 watt transmitter. The performance of the modulator was very satisfactory, after one or two modifica-



Rear view of the Modulator Unit.

G.B. Bulletin, February, 1949, and in other publications.

The following description and details of operation of the M2-75 modulator apply also to the M3-75 unit, allowing for the difference previously explained.

Type M2-75 modulator includes pre-amplifier stages, and is intended for use with a high impedance microphone. The overall gain is more than sufficient for full output using a D104 type crystal microphone. A 6J7 metal valve was used in the original unit, and should this type be difficult to obtain, a 6J7G would be quite suitable if provided with a metal shield to completely enclose the valve, grid resistor and r.f. filter circuit. A single ended valve, such as a 6S7J is not recommended. The second valve is a high gain triode type 6SQ7, and this valve and the following valves are readily obtainable.

-It was found that a single 807 valve as a tetrode provided adequate driving power for the modulator valves, when used as shown in the circuit diagram. Negative feedback was not necessary, as the distortion visible on the c.r.o. screen was not excessive at 75 watts output, over the voice frequency range for which the unit was designed.

The driver transformer is a type specially designed for use in this circuit, but the modulation transformer is a semi-universal type suitable for use with many other Class A, AB, AB₂, or B circuits, using such values as 307s, 808s, 830Bs, etc. The maximum signal modulated valve plate current should not exceed 150 Ma. d.c. per side of c.t. on the primary side, and the d.c. current through the secondary should not exceed 150 Ma. A maximum d.c. voltage of 1,000 may be applied to the primary and/or secondary windings. The transformer is fitted with a spark gap to provide protection against excessive peak voltages which may occur in the event of loss or reduction of load during transmitter adjustments, or tuning operations.

This gap should be carefully adjusted so that during full modulation the points

are as close as possible, but do not spark over under normal peaks.

The modulation transformer has been carefully designed and is not likely to break down with normal use if the maximum voltage and current ratings are not exceeded. The primary and secondary impedance ranges should be suitable for most modulator and transmitter valve combinations usual with a transformer of 75 watts rating.

MODULATION TRANSFORMER IMPEDANCES

| PRIMARY | SECONDARY |
|--------------------------|---------------------------|
| 1 H.T.+ | 7-8 4,000 ohms |
| 2-2 3,800 ohms | 7-9 5,000 ²² |
| 3-3 5,000 | 7-10 6,000 ²² |
| 4-4 6,600 ²² | 7-11 8,000 ²² |
| 5-5 8,500 ²² | 7-12 10,000 ²² |
| 6-6 10,000 ²² | |

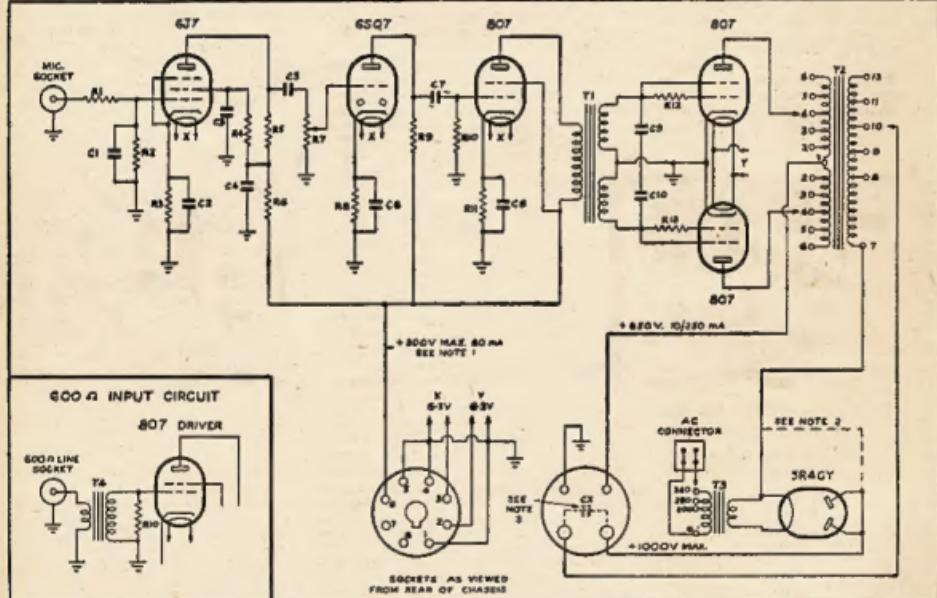
It is necessary now to point out that full power output with low distortion from this or similar audio equipment, is not possible without power supplies having the necessary voltage regulation

under minimum to maximum signal conditions.

The power supply for the pre-amplifier and driver stages should provide 275/300 volts at about 80 Ma. with sufficient filament windings for all valves (except the 5R4GY). It is advisable to check the filament voltages at the valve sockets, as low voltage, particularly on 807 valves, is to be avoided.

The power supply for the modulator valves is most important, and should be a separate unit with good regulation. The voltage output should be approximately 550 volts at the no signal current of 10 Ma., and should not drop to less than about 600 volts if full output of 75 watts is required, the maximum current required for both valves being approximately 220 Ma. It is possible to use up to 750 volts (maximum at no signal) on the valves, and obtain the power output with poorer power supply regulation. A power supply with good regulation and additional current capacity may also be used for both the modulator valves and the Class C final r.f. amplifier.

(Continued on page 5)



—Type IT588 A & R Transformer.

MT15 " " R2—5 megohm, W.

— n PT1516 n R3—1,500 ohm, 1 w.
R4—1.5 megohm, 1 w.

R4—1.5 megohm, 1 w.
R5—0.25 megohm, 1 w.

R6—0.25 megohm, 1 w.
R6—50,000 ohms, 1 w.

R7—0.5 megohm pot.

R8—5,000 ohm, 1 w.
E9—0.35 mfd., 1 w.

R9—0.25 megohm, 1 W
R10—0.5 megohm, 1 W

C1—0.01 μ F. Mica.
C10—400 pF. Mica.
R10—0.5 megohm, 1 w.
R11—225 ohm, 3 w.

—2,000 volt working, see text. R11—22,000 ohm, 5 w.
R12, R13—20,000 ohm,

Figure 4. The effect of the number of clusters on the classification accuracy of the proposed model.

NOTES

1. If voltage exceeds 300, reduce with a resistor and by-pass with an 8 μ F. condenser.
2. Short circuit plates to filament if negative peak clipper is not required.
3. Up to 0.01 μ F. by-pass may be re-

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★ Amplifier Cases, 53/6 each.

★ 350 Ma. 385/365 Power Transformer, 75/-.

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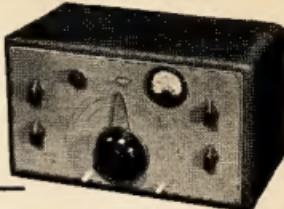
This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Price: 12 in. £7/19/6 net.

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Frequency 155 Kc. to 110 Mc. Seven bands! £47 (plus 10% tax).



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ELECTRONIC A & R EQUIPMENT

ANNOUNCEMENT!

A & R MODULATION EQUIPMENT IS NOW AVAILABLE

MODULATOR Type M2-75 is a complete unit with Standard 10½" Panel and Chassis and including high impedance microphone pre-amplifier, driver stage, 807 triode Class B final stage, and a negative peak clipping circuit. It is capable of 75 watts output in the frequency range 200-7000 c.p.s. when used in conjunction with suitable power supplies.

The modulation transformer is carefully designed and is a semi-universal type providing adequate primary and secondary taps for many modulator and transmitter valve combinations. It is fitted with an adjustable protective spark gap, ceramic insulators, and the mounting is reversible.

MODULATOR Type M3-75 is similar but does not include the pre-amplifier section. The input impedance is 600 ohms, transformer coupled to the driver valve, requiring an input level of 0 d.b.m. (0.75 volt, 1 mW.) for full output.

Major components such as Transformers, Cabinets, Chassis and Panel, etc., may be purchased separately if so desired. A descriptive leaflet showing full details, illustrations, circuit, parts list and prices is available on request.

A & R ELECTRONIC EQUIPMENT CO. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

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AMATEUR EMERGENCY WORK DURING KEMPSEY FLOODS

By CRIEFF RETALLICK, VK2XO, and HUGH STITT, VK2WH

For the third consecutive month, N.S.W. Amateur Radio Stations have supplied emergency communication from isolated areas, when normal services failed. The third occasion was during late August when Kempsey was devastated by flood waters. Reports on the previous activity have been given in this magazine. Again Amateur Radio added to its previous fine record of public service.

The first request for Amateur co-operation was made by the authorities on the evening of Friday, 26th August, when Crieff Retallick VK2XO, of Raleigh, was requested by P.M.G. Technicians, Mr. Vince McDougall of Kempsey and Mr. Eric Spring of Grafton, to stand by and contact the P.M.G. Emergency Flood Station at Lawrence VL2JA on 5390 Kc. The first request was made at 2100 hours and contact was established cross-band from 3.5 Mc. at 2330 hours. Tests were carried out and instructions given to VK2XO.

Saturday 27th saw Doug Gill VK2SH and VK2XO in contact at 0730 hours on 7 Mc. VK2XO reported that the a.c. supply to Kempsey had failed and that high tension poles had been carried away by flood waters. Enquiries were also made about the whereabouts of VK2ZS and VK2ASF, Kempsey's most active Amateurs. VK2SH informed him that he had left for Sydney. VK2SH from then on monitored VK2XO's frequency.

As arranged at 0900 hours, VK2XO and VL2JA made contact and continued on half hourly schedules. The flood position at Kempsey had deteriorated and it was known that Kempsey was completely isolated and out of contact by telephone. Incidentally all areas north of Kempsey were out of communication with the south.

A general call for assistance was transmitted on 7 Mc. by VK2XO, as was a similar message relayed over National Station 2NR. Within a few minutes VK2ARE, 2JK, 2ARY, 2UR, 2UC, 2TB, 2CU, 2ADX, 2SH and others were all standing by for emergency work with VK2XO acting as control station. VK2AA, official P.M.G. Station, called on the net frequency and requested that traffic be taken for Bellingen and area, and Harry Hine VK2ARY of that town relieved VK2AA of the telegrams. Traffic between these two stations was handled throughout the day.

A request was made from VL2JA that VK2XO endeavour to establish telephone contact with Kempsey, but Doug reported that this was impossible at this stage. Earlier at 0800 hours, Kempsey Post Office reported two feet of water in the telephone exchange and from then on no news had been received.

VK2AER broke into the net to inform VK2XO that two battery operated portable radio stations were housed in the Forrestry Department's office at Kempsey. This information was relayed on to VL2JA by VK2XO.

First news from stricken Kempsey came via Amateur Radio when at 1330 hours Chas Peddell VK2KN opened on

7000 Kc. and broadcast a QST for the urgent despatch of Army Ducks to the area for rescue work, VK2KN stating he had no receiver operating. This QST was received by VK2XP of Dubbo who relayed the message to the local police, he also informed the net of the position giving VK2KN's frequency. VK2XO immediately broadcast a request that Amateurs listen out for VK2KN in Kempsey. By 1415 hours a receiver was in operation at VK2KN and Chas established contact with Bill Allworth VK2OE of Maclean and the request for Army Ducks was relayed to VL2JA from VK2OE.

The 7 Mc. band, by this stage, was a hive of activity. Police messages, telegrams were flashing back and forth and Amateurs were performing valuable work.

Five channels operated from the flood area; VK2KN from Kempsey, VK2ARY from Bellingen, VK2XO from Raleigh, VK2DX and VK2DZ using an FS6 and operating for the Macksville Police and at Clybucca Mr. N. C. Harrison of the Dept. of Civil Aviation operated a No. 11 set lent by VK2ADN to a relief party which left for Clybucca from Coffs Harbour.

It is extremely difficult, if not impossible, to clearly trace the events in emergency communication that happened during the remainder of Saturday. Some of the work performed included the following: VK2CU monitored VK2KN's frequency and passed information to VK2XO for relay to VL2JA. VK2AKA established communication with the R.A.A.F. Catalinas flying over Kempsey and informed VK2KN that the aircraft was operating on 4495 Kc. Chas was able to contact the planes flying overhead and greatly assisting in the direction of relief work. VK2AQO passed news to the R.A.A.F. VK2KN later in the afternoon requested permission for the handling of press; VK2AKA, 2GC and 2WH assisted and VK2AA obtained permission.

The first press message of 384 words was cleared after great difficulty. VK2KN was only using very low power and many stations assisted to fill in the gaps in the message. Hugh Stitt VK2WH at Forbes seemed to receive VK2KN best of all and provided many fills. Nearly three hours elapsed before the message was finally cleared. Many telegrams were also handled between VK2KN and VK2AA. VK2KN finally closed at midnight after a contact with VK2SH.

The greatest problem during the evening was that of commercial interference from two ZK stations. VK2KN operated on 7,000 Kc. and the two ZK stations were about a kilocycle outside the band. The resultant din can easily be imagined. At one stage Chas tried c.w. and as he had no key tapped two wires together. The keying was excellent under the circumstances, but the chirp from the emergency equipment made it impossible to copy.

VKG3, the Newcastle Police Station on 4,400 Kc., was also contacted by VK-

2XO and stated that the Army Ducks were standing in readiness for departure. These Ducks left for Kempsey during the afternoon. Jack Brand VK2ADX earlier during the day informed VK2XO of the availability of the Ducks. During Saturday evening the Ducks lost radio contact with their base and Amateur Stations were requested by b.c. stations to listen out on 6,235 Kc. and report progress on the trip north.

Sunday morning saw the emergency nets re-established at 0700 hours. VK2WH and VK2KN were in contact VZSY, Mascot Aerodrome Station, notified they would stand guard on 7,000 Kc. VK2AA, VKG3 and VK2XO all opened on that frequency. Message handling continued throughout Sunday, many stations again co-operating.

Other activity included: VK2SH handling police messages from Port Macquarie to VK2AA Sydney, VK2DX from Macksville requesting urgent supplies and Clybucca also opened up. Clybucca's first CQ was answered by VK2ARY and VK2AAQ and with the assistance of VK2GC and VK2AS messages were passed to official station VK2AA by phone. VK2FZ also assisted in the receiving of the messages from Clybucca.

By evening the position in the flood area had improved and at 1745 hours VK2AA reported no outstanding traffic. It was interesting to note that practically all this emergency work had been performed on telephony except for the handling of some of the telegrams.

VL2JA, main station of the P.M.G.'s Flood Emergency Net, was active right throughout the emergency. Operating with 200 watts on 5390 Kc., they were worked duplex by VK2XO on 7 Mc. The P.M.G.'s flood network extends to the Queensland border and converted 109 sets operate from the following locations: Murwillumbah, Tyalgum, Lismore, Nimbin, Kyogle, Bangalow, Woodburn and Copmanhurst. All stations operate on 5 Mc.

All credit must go to Chas Peddell VK2KN for his sterling effort in operating under great difficulty. Chas set up his emergency equipment at the Police Station at Kempsey, using vibrator power supplies. He kept the town in contact with the outside world for 36 hours when no other form of communication was available.

It was a clear demonstration of the value of Amateur Radio as a National asset in times of emergency. Amateurs gave full co-operation to official stations VL2JA, VK2AA, VZSY and VKG3 at all times; the latter had the responsibility of routing the traffic handled.

The emergency net, during the weekend, developed into a State wide hook up, and the following stations assisted either by relaying messages or acting as guard stations: VKs 2KN, 2AKA, 2WH, 2XO, 2ARY, 2OE, 2CU, 2UC, 2SH, 2LH, 2XP, 2ADV, 2LN, 2GC, 2AIM, 2ASM, 2CL, 2PC, 2DZ, 2DX, 2CZ, 2TG, 2AHZ, 2AQO, 2ADX, 2GI, 2VR, 2TE, 2SR, 2CW, 2DO, 2AX, 2NY, 2SZ, 2DS, 2AMM. Apologies to any Amateurs missed in the above list.

Here in Australia the elements are generally fairly kind to us, but in these rare times of emergency the VK Ham has shown his ability to perform one of his necessary functions, that of providing communication when other methods fail.

THE OLD MAN

The Remembrance Day Contest is over, and what a grand contest it was, what a pleasure to work those fine operators. Seriously, I'm supposed to comment on bad signals, but one felt very proud of the operating skill of those boys on c.w. They certainly rattled those numbers through and the short "Good day Bill," "Good luck old son," gave one that warm feeling of friendship and rivalry; let's have more of these type of contests. It was noted that although participants were asked not to select three consecutive numbers, there is always the fellow who wants to be different. Didn't you get your "Amateur Radio" in time 6DX to read the rules?

There are times that I want to listen to an Interstate broadcast on 7196 Kc. and inevitably I find a few who admit they are not aware of the time and wonder if they might be causing interference. Why, oh why, must you pick 7196 Kc. on a Sunday morning when the Interstate Institute Broadcasts are

on? Noticed on this frequency one Sunday morning recently were VKs 2AHM, 3FC and 3GZ and did they mess up the broadcast from an adjoining State.

Why is it that you fellows take exception to using the phonetic alphabet? It proved itself during the War and is laid down in the Regs., for our use by the Department, but still we hear "this is VK2LK Two Leaping Kangaroos," or "this is VK6 Mexico Kilowatt." How much easier it is for the Station overseas to decipher Two Love King than to listen to Two Leaping Kangaroos.

VK2JP has again been in evidence, with his persistent jamming of local stations, trying to work that elusive bit of DX. Just how you get away with your obvious flouting of the Regulations in passing "Messages," and I mean third party messages, makes one wonder what the Experimental Advisory Committee is doing in your State. Either they deliberately do not hear you or put it down to your dotage.

The splatterers are still going strong; VK4DO, VK3UO, VK2BX and VK2JP are having a neck and neck race to become the worst offender. The same thing applies here as in the former paragraph, either the E.A.C. in the States concerned are not doing their jobs or are turning a deaf ear to this worst type of offence.

The worst signal in the Contest emanated from South Australia and VK5VWO was heard on with a c.w. signal that would have been outlawed way back in 1929. Why not try a Clapp OM, it's a very simple circuit and even you should have no trouble in getting it going.

The phone in the c.w. band on 7 Mc. is still cropping up, in spite of the "Gentlemen's Agreement". Are you, or are you not, a gentleman VK3HV? You were heard there recently trying to blast your way through dozens of c.w. signals.

The key click merchants are again in evidence, just a small choke and a condenser and resistor fellows. VK4RA and VK3AAW should have heard of this method of reducing clicks, but one wonders.

Numbers of stations have been heard butting into QSOs already in progress and flipping their carriers on and off without any mention of a call sign. This is particularly noticeable in the various hook-ups of country Hams on Sunday mornings. The Regulations state very definitely that the call sign of the station transmitting and the call sign of the station being worked, must be announced on each over.

With all this criticism I feel that a word of praise may not go amiss, and I hand top place to those VK6 Hams who participated in the R.D. Contest. Without exception their signals were outstanding, their operating procedure excellent, and if they win the Contest it will be well deserved. Cheers until next month.



WIRELESS LICENCES MUST BE RENEWED

TUNE IN WITH AN EASY CONSCIENCE

Every person must hold a yearly broadcast listeners' licence for each receiver in his or her possession, whether in the home, place of business, holiday residence, motor car, or elsewhere, including portable sets.

The Australian Broadcasting Act provides that unlicensed radio sets are liable to seizure and the owners to heavy penalties.

Licences may be obtained from Post Offices

RENEW EACH RADIO LICENCE PROMPTLY!

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QUESTIONS AND ANSWERS

In August issue of "Amateur Radio" VK4AG asked for information on the FL-5-E Radio Filter. We are indebted to WBSGK for his reply in this matter.

"While I may be in error, not having one of the Filters in question on hand, I'm of the opinion that this is one of the aircraft 'Range' filters used in planes for monitoring low-frequency radio range beams. In the U.S. we have a network of ranges in the 200-400 Kc. region. One carrier is sent out from four vertical towers, another carrier sent out from the centre tower, just 1020 cycles off the outer tower carrier frequency.

"The outer towers are modulated with c.w. signals, 'A' and 'N,' transmitted from opposite towers. The centre carrier is voice modulated with weather reports, transmissions to planes not otherwise equipped with radio gear, and the like. These filters are therefore so arranged that they may be switched to reject all but 1020 c.p.s., in 'range' position. To reject 1020 c.p.s. and pass all others, in 'voice' position, or may be switched out of the circuit entirely in 'normal' position. Thus a pilot may 'fly the beam' or receive weather reports, landing instructions, whatever he prefers, while another pilot may be desiring the exact opposite without any interference between the two.

"Signal Corps equipment was standardised with two impedances—headphones were 8,000 ohms and 600 ohms. Output transformers in receivers were 4,000 ohms, to handle two phones in parallel, and in most cases were tapped at 600 ohms. The FL-8 series were the high impedance filters and the FL-5 series were the 600 ohm type, both in and out. These were made by different manufacturers, and in some cases had minor modifications to specifications. The last letter indicated either manufacturer or modified type, but to my knowledge never indicated a radical departure from operating specifications.

"All things considered, it appears that he has a nice gadget to use in cleaning out QRM on c.w.—600 ohms in, 600 ohms out. Some lads over here complain that the 1020 cycles tone is too high pitched and have done some tinkering with these filters to try to change the pass frequency. I haven't heard of their being too successful. I've never torn into one; have a FL-8-B, myself."

AMATEUR STATION INSPECTIONS

Inspections of ALL Amateur Stations are to be carried out within the next few months.

Under P.M.G. Regs. 61 and 62, it is necessary to have available the station licence and the operator's A.O.C.P.

Log Books and records of tests and experiments are also to be available for inspection. Wave meters and/or frequency meters to be viewed.

Where possible, Amateurs are requested to arrange for access to their stations during the day by leaving a key or authority to enter with a responsible person.

No equipment will be turned on except in the presence of the licensee.



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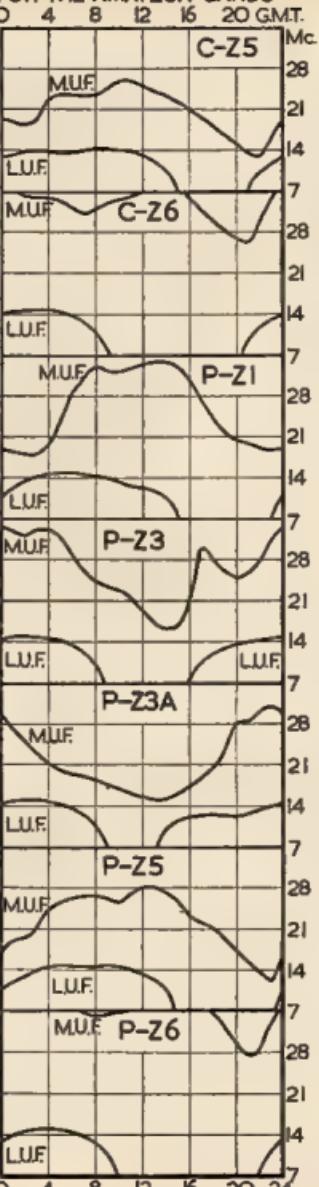
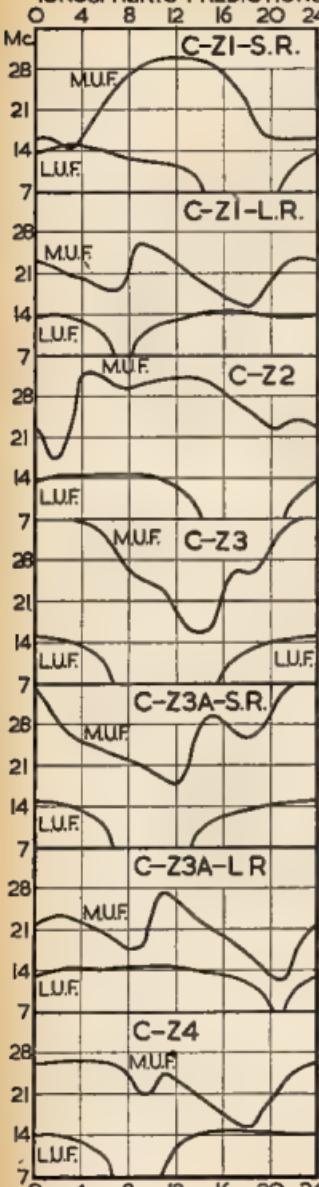
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DISPOSALS

The following is a copy of a series of questions asked in the Federal Parliament. The answers supplied by the Minister responsible are very interesting. These questions and answers were published in Hansard.

QUESTION—

To ask the Minister representing the Minister for Supply and Development:

(1) Has the Disposals Commission been in the habit of selling wireless parts by private negotiation to the Wireless Institute at prices lower than obtainable at public auction.

(2) If so, what is the total quantity of such sales made during the past three years.

(3) If the quantities sold are sufficient to enable the Institute to enter into competition with other traders who buy at auction, does the Government intend to continue such sales?

(4) As the goods are, or were, Commonwealth property, what was the reason for the departure from the usual sales procedure.

ANSWER—

(1) The Commonwealth Disposals Commission sells wireless parts direct to the Wireless Institute but only at prices which are at least equal to those obtained for similar items at auction.

(2) During the past three years, sales to the Wireless Institute throughout the Commonwealth have been in the vicinity of £11,800.

(3) The Wireless Institute is not a trading organisation and with each order gives an undertaking that the items are for personal experimental use of its members and not for re-sale by members. The Commission has been advised that each member of the Institute has signed a special undertaking not to resell equipment purchased for them by the Institute. The Commission proposes to continue selling to the Wireless Institute.

(4) The approved sales procedure of the Disposals Commission provides that after the requirements of Government authorities have been met, special consideration will be given to the needs of bodies engaged in educational, charitable, health, and general community activities. The Wireless Institute is regarded as an educational body as it exists for the encouragement and scientific development of radio communication. Amateur radio enthusiasts operate under a licence from the P.M.G.'s Dept. which prohibits the use of their equipment for pecuniary gain. Members give valuable community service in times of emergency and rendered outstanding service to the Commonwealth during the war. In addition to supplying trained operators for Navy, Army and Air Force Signal Corps, they assisted the operations of Air Observation Posts by reporting the movements of aircraft. It is in the interests of the Commonwealth to encourage members of the Institute by enabling them to obtain their requirements without the necessity of purchasing at enhanced rates through radio dealers.



NEW ADDITIONS TO THE FAMOUS EDDYSTONE RANGE



SEMI-AUTOMATIC MORSE KEY

As the illustration shows, this key is of really modern design, being totally enclosed in a streamlined diecast housing, which is finished a fine ripple black with chrome relief. The movement has received special attention and is a fine example of first class light engineering. Words cannot do justice to the beautiful action, you must try the key for yourself to appreciate it. It is fully adjustable to enable any operator to make full use of the wide range of speeds provided. The handle has been designed to give equal facility to right or left handed operators. A short circuiting switch is fitted to the base, which is a heavy diecasting provided with rubber feet and with holes for screwing down.

Cat. No. 689, £8/6/3 (plus tax).



MODULATION LEVEL INDICATOR

This instrument is contained in a neat diecast box, finished a fine ripple black. The circuit employs two Germanium Crystal Rectifiers. The small pick-up aerial provided, plugs into a socket on top and a socket at the rear takes a coil for the particular frequency band in use. No external connections are necessary. In use, the R.F. pick-up is adjusted until the meter reading coincides with a special mark on the scale. On switching over, modulation percentages can be read off instantly against the directly calibrated scale. In addition, the instrument may be used as a phone monitor, a telephone jack being provided at the rear for this purpose. The meter itself is a very sensitive one (200 microamp, full scale deflection) which permits the instrument to be used as a field strength meter. In the latter service, it will assist materially in such experiments as lining up a beam aerial, determining radiation patterns, effect of variation of coupling and matching systems, etc. The calibration holds good over the whole range of Amateur Bands, up to 28 Mc.

Cat. No. 678, £14/7/- (plus tax).



SIGNAL STRENGTH METER

This "S" Meter has been designed primarily for use with the "640" Receiver. It is contained in a neat diecast housing, finished a fine ripple black to match the Receiver. The necessary resistors, including the zero adjuster, are fitted inside. The meter, which has a 200 microampere full scale deflection, is calibrated in "S" units and decibels above S9, on the basis of a 4 db increase in carrier strength for each "S" point. The leads terminate in an octal plug, or permit direct connection to the socket on the rear of the "640" Receiver.

Cat. No. 669, £9/3/9 (plus tax).

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- WESTERN AUSTRALIA: ATKINS (W.A.) LTD., 854 Hay Street, Perth.
- QUEENSLAND: CHANDLERS PTY. LTD., Corner Albert and Charlotte Sts., Brisbane.
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FEDERAL, QSL, and



DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2612W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary—Dick Dowd (VK3SRP), Box 1784, G.P.O., Sydney.

Meeting Night—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Editor—L. D. Cuffe, VK3AM, 148 Watson Street, Neutral Bay, N.S.W.

Zone Correspondents—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St, Penrith.

Macquarie, Newcastle: L. J. Baker, VK3FP, 138 Strelton St, Hamilton.

Newcastle: Coalfields and Hunter: H. Haskins, VK3H, 312 Pitt St., Ave., Newcastle.

Central Coast: G. Russell, VK3QA, 115 Bogan St., Nyngan.

South Coast and Tablelands: R. H. Haynes, VK2DO, 42 Petrie St., Yass; Southern: E. N. Arnold, VK3EJ, 674 Forrest Hill Ave., Wentworth Suburbs: A. D. Dwyer, VK3AD, 100 Wentworth St., Eastern Suburbs: H. Kerr, VK3AK, No. 4 Flat, 144 Hewitt St., Bondi, North Sydney: L. D. Cuffe, VK3AM, 770 Military Rd., Mosman.

St. George: J. A. Ackerman, VK3AL, 53 Park Rd., Carlton; South Sydney: V. B. Wilson, VK3VV, Or. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary—C. O. Quin, VK3WQ.

Administrative Secretary—Mrs. O. Cross, Law Court Chambers, 181 Queen St., Melbourne, C.1.

Meeting Night—Second Tuesday of each month at Melbourne Radio School, Melbourne Technical College.

Zone Correspondents—North Western: R. E. Trebilcock, VK3TA, 182 Victoria St., Kerang, West.

C. C. Waring, VK3TW, 12 Skene St., Stawell.

South Western: W. H. Ross, VK3UT, Ballarat.

Central: G. E. McLean, VK3C, 100 Eastern: J. A. Miller, VK3AS, "Kingsgate" Ave., Ferntree Gully.

North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mr.

E. M. Oberhundert, VK3US. "Shirley," Red Hill.

FEDERAL

D.C.C. LISTING

As new applicants seem to be in some doubt of the actual Rules for application to D.C.C. membership, we hope to be able to publish next month the Rules once again for general information. The Rules were last published in "A.R." for August, 1947, and amended in "Federal Notes" for April, 1948.

PHONE

| U.W. | Score | Countries |
|------------|-------|-----------|
| VK3JD (1) | 84 | 126 |
| VK3KQ (4) | 86 | 132 |
| VK3RU (2) | 87 | 131 |
| VK3SE (5) | 87 | 126 |
| VK3DD (8) | 105 | |
| VK3IE (7) | 100 | |
| VK3IG (5) | 104 | |
| | U.W. | |
| VK3BZ (6) | 40 | 147 |
| VK3CN (1) | 40 | 148 |
| VK3WV (4) | 89 | 184 |
| VK3QL (5) | 40 | 182 |
| VK3JL (1) | 89 | 181 |
| VK3EK (5) | 80 | 181 |
| VK3ED (16) | 40 | 120 |
| VK3HR (8) | 40 | 119 |
| VK3ED (2) | 40 | 115 |
| VK3EF (1) | 40 | 112 |
| VK3RF (11) | 55 | 110 |
| VK3UM (11) | 36 | 106 |

New F.C.W. Member—

| Zones | Counties |
|-------------|----------|
| VK4RO (18) | 28 106 |
| VK3APA (14) | 26 101 |

OPEN

| Zones | Counties |
|------------|----------|
| VK3BZ (4) | 40 171 |
| VK3ED (5) | 40 155 |
| VK3RU (5) | 40 155 |
| VK3JL (12) | 29 153 |
| VK3AR (7) | 40 145 |
| VK3IG (5) | 39 141 |
| VK3EW (18) | 29 141 |
| VK3EF (1) | 30 138 |
| VK3EK (5) | 40 135 |
| VK3EL (10) | 29 129 |
| VK3AP (19) | 29 128 |
| VK3NS (16) | 29 128 |

New Open Member—

| Zones | Counties |
|------------|----------|
| VK4UL (87) | 32 104 |

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI—Sunday, 1100 hours EST, 7186 Kc. and 2000 hours EST, 644.0 Mc. No frequency checks are available from VK3WL. Inter-State working frequency, 7178 Kc. No.

VIC3WI—Sunday, 1130 hours EST, simultaneously on 2350 and 7186 Kc. and re-broadcast on 50 and 144 Mc. bonds. Inter State working frequency, 7185 Kc. Individual frequency checks of Amateur Stations give a query service to VK4WI.

VK4WI—Sunday, 0900 hours E.S.T. simultaneously on 2756 Kc., 644.0 Mc. and 1342 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7058 Kc. channel is used from 1900 to 1930 hours each Sunday as VK4 query service to VK4WI.

VK5WI—Sunday, 1900 hours EAST, on 7186 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK5WI—Saturday, 1400 hours, Sundays 0930 hours WEST, on 7186 Kc. No frequency checks are available.

VK5WI—Second and Fourth Sundays at 1800 hours E.S.T. on 7186 Kc. No frequency checks are available.

QUEENSLAND

Secretary—W. L. Stevens, VK4TB, Box 658J, G.P.O., Brisbane.

Meeting Night—Last Friday in each month at the Y.M.C.A., Roma, Edward Street, Brisbane. Divisional Sub-Editor—F. M. Shannon, VK4NS, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary—E. A. Barber, VK5MD, Box 1234E, G.P.O., Adelaide.

Meeting Night—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor—W. W. Parsons, VK5PF, 483 Elizabeth, Henley Beach.

WESTERN AUSTRALIA

Secretary—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night—Watch the Monthly Bulletin.

Divisional Sub-Editor—George W. Ashby, VK5GA, 38 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary—H. D. O'May, VK7OM, Box 571B, G.P.O., Hobart.

Meeting Night—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor—Capt. E. J. Orme, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LE, 3 Knight St., Launceston.

AMATEURS LICENCED IN AUSTRALIA

As at the 1st August, 1949, the following are the number of licensed Amateurs in each of the districts of Australia—

VK1—8, VK2—854, VK3—885, VK4—299, VK5—298, VK6—179, VK7—96, VK8—61; tots: 1,727.

The above figures are those to be used in determining the State winner for the Remembrance Day Trophy.

1949 REMEMBRANCE DAY CONTEST

The 1949 R.D. Contest is once again past and, judging by the comments of those who took part, a really bumper Contest resulted. This may well be where it is realized that over 400 Australian stations took part, and some 300 logs have been received. The "Rocky" appears to be the best in this year, and is growing to the proportions of the VK-ZL DX Contest. This alone indicates the success of this event.

From a check of those taking part, it appears that the phone stations are greatly in the majority, most operating exclusively on 14 Mc. and could be truly an open contest with a 40-50 proportion of both phone and c.w. The general standard of operating was excellent, and very few poor c.w. signals were heard, but a greater number of phone stations than would gain control. To all those who did not enter we can only say that, as in the excellent Contest—last year's should be better still.

W-V-E 1949 CONTEST

Some preliminary results have been obtained which seem to indicate that the VK3 area is the best, with a total of 390,440, followed closely by VK10 with 286,638, and WAEK with 265,362. Outside of the U.S.A., come SSB with 306,542, again Juan Loboy Lobo XFIJA continues to pile up contacts. The same 10,000,117 from 2,605 c.w. contacts. There came CIGAR with 8,644 and EV4AA with 483,503. High Europe was 2E4Q with 283,903, PAGUN and HASS with 208,550.

COMMERCIAL STATION LOGS

By now all State observers should have received their report sheets. It is hoped if possible that each State observer will have access to a typewriter so that an legible log may be furnished to the P.M.G.'s Department. We will be happy to re-type any logs we receive in the near future, so please endeavour if so typewriter is available, to make a neat job of the entries.

T.C.C. 1.5 uF. 4,000 v.w. Condensers, £2 each.

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Monday—VK3WV, 1820 to 2100 hours E.A.S.T.
Tuesday—VK4WV, 1800 to 1900 hours E.A.S.T.
Wednesday—VK5WV, not operating at present
Thursday—VK5WV, 1820 to 1900 hours E.A.S.T.
Friday—VK7WL, 2000 to 2100 hours E.A.S.T.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Congratulations to Noel, VK3RN, on the arrival of his daughter, born towards end of August, on location in Tasmania. Noel, being now in Tasmania, has a distinct possibility of Noel moving in the near future. QSL Managers and others are advised not to send further cards to the Norfolk Island QTH as Noel will move there until Noel's future location is decided, which may be VK7.

Frank Clarke, VK3FCK, Omeo, who visited Melbourne during August, is also to be congratulated on the safe arrival of another junior, YL, now making the splendid total of five.

An event which was scheduled to take place a few months ago and which had all Australian friends with varying degrees of interest, was the contact between Jim, VK3YD, and Dave, VK3DQ. This sensational QSO was to take place on 7 Mc. and arrangements had been completed to clear all adjacent channels and the ringtone alerts were filed with the telephone company. The power transay in Jim's modulator (7) unit took over instead of regarding this providential happening as the writing on the wall and abandoning the project, the two conspirators are again planning for a bigger project. Advance information will be published in these columns.

From Fred Hesse, VK3FPH, came advance results of the R.E.R.U. on 21st August but a shade too late for inclusion in the September issue of "A.R." as the information is not published elsewhere, here it is as follows: "A.R." by Fred Hesse, VK3FPH, Senior: VK3DQ, GSW2Y, ZL1ME, ZLPAZ, ZLIV, G6ER, GWS2Y, VK3PK, ZR2QI, OG8K, VK1ZQ, VK3RJ, QSDQ, VK3XK, ZS2U, OG9N, E8ZC, QSPB, VK3RJ, VK3PEL. The winner, VK3DQ, assumed 2nd place, while the 35th place, VK3YD, totalled 1,604 points. Points for VK3DQ, following positions are of interest: 1st ZB1Q, 2nd VK3QD, 3rd ZD4M, 5th VK3TT, 9th VK3UM, 10th VK3RJ.

A message from GEIAD from here from 50 QSOs, only 10 QSLs received as QSLs appear to mean so much to these Europeans, please do the right thing and acknowledge his QSL.

Revert to chronicler that Jack McMath, VK3JJ, was during August, set upon by four thugs who in the usual wild pack manner battered him, breaking an arm and leaving him with a black eye and in addition relieving Jack of £4. The arm having been re-set, Jack is now improving and would relish the opportunity at a later date of meeting each of the basher gang in even terms. If that opportunity is given Jack, my money goes on him.

Melbourne Firms were pleased to greet "Bo" Williams, VK5BQ, on a short visit to our City during early August. "Bo" is to be heard thrice weekly on 144 Mc. and is a most pleasant, ardent and interesting personality, "Al" WHOC.

Felix, VK3KAC, in QSLing the states that there is only one other active HAM in Noumea besides himself and that is PESAR. A third, FESAA, has been heard on 144 Mc. and is also active. FESAA at Townsville Airfield also has a ticket but has not finished his rig as yet. Felix adds that FESAA will make a good contact when he does get on as his operating ability is above average. The QTH is Noumea, New Caledonia.

Welcome back to the air to Neil Hart, VK5XV, who after 13 months in hospital has been on far restored to health that he is able to periodically take up his old hobby. My E.H.A. associations with Neil have been excellent.

Any VK who worked HN1LA and did not receive a card may obtain one by advising WEDIX, 301 Jefferson St., Vallejo, Calif., U.S.A. As a complete log has been retained, try out will meet the fit.

ZS3DO, complains that he is not receiving VK cards back in near the numbers that he sends, being a 100 per cent. QSL man. Do not let our International reputation down, please chaps.

A chap from Lima, Peru, is endeavouring to swap postcards with anybody in VK 144-5/87. Lee Fletcher, U.S. Mission to Peru, U.S. Embassy, Lima, Peru.

VK1ZQ, via VK3FPH, advises that from now until further notice he will be operating on 144 Mc. each Friday, Saturday and Sunday at 1800, 2200, and 0100 hours G.M.T. He is especially looking for VK and ZL contacts. The two latter times seems to be rather late for VK, but the first at 5 a.m. E.A.S.T. may prove to be successful for the ZLs in the gang.

A request has been received for the publication of the QTHs of the State QSL Managers:

VK1—Mr. Corbin, 78 Maloney St., Eastlakes, Sydney.

VK3 (Inwards)—Graham Roper, 36 Lucas St., Crowsfield, S.E.8.

VK3 (Outwards)—Frank O'Dwyer, 180 Thomas St., Hampton Vic.

VK4 (Inwards)—Eric Lake, Old Cleveland Rd., Camp Hill, Brisbane.

VK4 (Outwards)—Bob Campbell, 80 Prospect Street, Kelvin Grove, Brisbane.

VK5—George Lazarus, 8 Brook St., West Mitcham, South Aus.

VK7—T. A. Allen, 8 Telope St., Newhaven, Tasmania; Ray Jones, 5 Brook St., East Maitland, N.S.W., E.I. Vic.

NEW SOUTH WALES

The August meeting of the N.S.W. Division was held at Science House, Sydney, on Friday, 23rd August, and the meeting was opened at 7.30 with an Extraordinary General Meeting which decided to consider certain amendments to the Articles of Association. So much discussion developed that an adjournment was made till September. The General Meeting which followed consisted mainly of the lecture set down for the meeting. The subjects were "Selway Inductors and Their Uses," given by Mr Ray Howe, VK3ARH, which proved of great interest to all members, especially those who had purchased the units.

Onwards baba, the Library, is growing rapidly and now has numerous text books and periodicals to its credit to be constructed shelves!

NORTH SHORE ZONE

Very little to report this month, due to other activities taking up almost the whole of my time, unfortunately. Anyway, it's E.B. weather, and DX seems to be improving slightly, which ought to be all to the good for the forthcoming contest. It is not too early for us to try and maintain interest in the contest, when the shack is like the interior of a refrigerator.

2AQN has been fairly busy on the air whilst his shack has been in port. 2AJJ heard once again with his antenna, and 2AQN is still working on the band, and is also planning to hook him up with a band-switching doohickey so you can't band-switch the beam as well. Bob 2AJJ reported drumming up another beam. 2GQ believed he is tinkering with another beam. 2AJJ has got his QSLs for further activities—well, drumming, even though thermal noise soon. George 2EE now back on his old receiver, but is likely to pop up with something super before long. 2GQ very quiet of late, given the game away, Noel? 2IN's beam still down for repairs.

WESTERN SUBURBS ZONE

Power restrictions appear to have put a damper on the activities of many of the locals, but the enthusiasts won't be beaten. 3MQ has just set up his new rig working on 8 metres and from Bill's description it sounds a hoot. 3MQ has completed 20 more of his 200-watt beam being built for him by 2AQN. 2MQ. They're 11. 2MQ's 80 m. bands great. Ron? 2AH is tickled pink with his operating set-up. Free to talk, etc., and can Curley talk! Needs no power, just a 12-volt car battery. 2AH has promised to set up 2AQN's 80 m. rig, giving great runs on 20 m. and promising to power cut-off. 2AQN's promised to set up 2B, but no signs of it as yet. 2ID hasn't been sighted since leaving the area and getting married. His hamming must be jamming 2BQ should have that quadrule convention super rig 144 Mc. by now! What's doing along 2BQ, haven't heard you lately! Joe? New modulator coming up?

The Gladstone Radio Club, VK3RAD, has arranged a number of lectures and more evenings of popular interest are planned. Mr. J. Reed, VK3JRD, has an interesting lecture on 1st October on "The Ionosphere, Predictions and 'Rotary' Antennas." A Field Day on 144 Mc. is planned for 14th Sept. and it is to be the same novel type of direction-finding contest as the one held last May. 5th October is devoted to a social outing and members will have a great time picnicking at Edin Park.

NEWCASTLE ZONE

Things have been very quiet, possibly due to power restrictions, plus the lack of DX. The most important news this time is of the marvellous emergency work done by 2EN and the Northern gang. All here in Newcastle offer their congratulations on a wonderful, job well done. Three times the more power, Northern. 2EN has come to the rescue when the communications failed—becoming the hero when the telephone recognition is given to the efforts. 2EN just got out of hospital after a small operation and has given phone away to catch up on his power. 2EN very busy with W.I.A. Branch work, arranged for bumper official opening for the Hunter Branch and we are all expecting a big roll up. The gang are very pleased to be part of the W.I.A. now. The 2000 W.H.D. Contest was better supported this year. Stations operating in the Zone included 2E2, 2E3,



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2AHA, 2CH, 2PT, 2AMM, 2ANA, 2TE, 2PG; two highest scores should be 2ZG about 400 points and 2AHA 333 points, both having to operate during working hours with QRP1 2PT and 2AFS both re-building. 1PT QSO on 807, 75 watts and guess what? 2AHA has a 1000 watt transmitter. Not much from 2AHD, have an idea he might be lying low for the V.E.L. Contest. 2ZG keeping Newcastle on the map on the V.H.F.s on 6 and 2 metres. Newcastle to 2AHD is 11 miles. Frank has a nice antenna and works regularly to Sydney. 1PT frequency found on 40 and 80 with a nice signal too. New Ham and member of the W.L.A. is Norm, 2ANA. Norm burns a hole in the Mayfield air on 40 and 10. 2AHD has a new dipole on 20 and 38 and VE8 is the new dipole on 20 and 38 and VE8 is

4700 ft. of breaking (DX man - para-w) works plenty of Ws with a feed beam. 2AMM put up a good score in the R.D. Contest. 2TE has two nice beams working, three elements on 20 and four on 10 metres. They overlook the Pacific and Bert is a good operator on 40, 20 and 10. 2ANA on the latter band managed to play in DX. Not much from 2BHU but with three elements on 20 mainly chasing 20 metre DX. NIU from 2LV, presumed still has 20 metre. 2ANA has taken over the zone notes from 2PP. 2PP is QSL with a working beam for a change. 2ZG is going in with a working beam for a change to worry 2AHD who will be worried by local QRM for the first time. The main reason for the change is to select a good location for the DX. No news of Mailand since the floods.

CALIFORNIA AND LAKES

1KR listening on 6 and working 40, had a weekend with the boys at 2ARG. 2RI working the 144 Mc. Freq. quite well on 10, 20 and 40. 2RI has been up on 40 Mc. using a folded dipole and hopes to have a beam up soon. 2ANU playing about with converters and active on 40 and 28 Mc. 1KZ on the air again after an absence of two months. 2BHU and 20 Mc.

2NF, besides 28 Mc., is going on 144 and looking for contacts, also did the trip to 2ARG. No news of 4TY or 3MK. 2PTZ still busy on his disposal rig, may be active now. 2ALX is a new Ham and 2ANU is active on 10 metre phone, however r.m.s. to be seen, as he is running 60 Mc. grid current to a pair of 807s. 2YL working a band, mostly on 50 Mc., some new contacts up in 2BZ. 1KZ 144 MHz working on 40 Mc. 2ANU has a new dipole battling along on 40 Mc. 2ANU who has had some interest. Jack reports 28 and 27 Mc. improving.

SOUTH COAST AND TABLELANDS

Last month I forgot to farewell VE8VE who left for England, he will be away for about a year and all the nose with him the best. Not a great amount of news on the subject, as the only details received from a few contacts was that he was at G.C.A. (b.c.t.c.), 2PTI has been busy working from the kitchen with plenty of sound effects noticeable. It is nice to see such co-operation, washing up and doing Radio at the same time. 30W, at Temora, is getting into the act and is still active. 2ANU has still keen on the Rugby League. Gee, has replaced phase splitting with transformer coupling, much improved quality and freedom from broad edge transmissions.

2PN heard during the R.D. Contest and appeared to be a pair of plenty of contacts. 2PN heard only briefly but was quite a friendly and easy going fellow from a carbon mike. A new station in Forbes is 2AMV, Tx AT20, Rx AM2500 and a three element rotary on 10; owner, John Meagher, Jnr. News of 2ANU in the "Gong game" but 2WZ has had a few more stories and also photos and we will endeavour to have them published in "A.R." Activity in the R.D. Contest was good and operating more interesting due to this fact. Congrats to the state that takes the lead in the R.D. and the same to 2PA, for his good tally for V.X.S.

WESTERN ZONE

Things in this zone have recently returned to normal now the power restrictions have been eased. We have two new Hams in the persons of Drs Kelly and Parkes, VE8SAF, who is using p.p. 807s and a Wisdom antenna, the receiver being a Eddystone 649 and 2AHD, John runs an 807 line up on 40 and 20, his call is 2AMV. The Eddystone 649 is becoming quite popular, 2JC, 2ANU and 2ACU run and are loud on their pairs. The Dubbo gang are still active, 2ANU, 2AMV, 2ANU and 2ANU, 2ANU has his three elements on 10 working satisfactorily and has called a few new countries. 2JW and 2ALX are still working on the a.m.c. in 2ANU and supplied carriers they maintain it in top shape, with a small tube and a few日本 boys. Ten metres is on the improve to W and 2L and 20 sees the old stalwarts active. 2LV making terrific noise on 40, sounds as though the big rig is on at last. 2BZ is taming a v.t.o. for weeks, just won't stop in the one place for long. 2EF still using 144 Mc., while 2PT has been heard on 80.

VICTORIA

VICTORIA RUNS AN EXHIBITION

Much midnight oil was burnt during the organisation and planning of this Division's exhibit at the All Models Exhibition which ran from 27th August to 3rd September, 1949, and held in the Exhibition Buildings, Melbourne.

The obstacle to be overcome was the erection and placement of suitable antenna for all bands. Obstacle is the correct word as the height of the roof (which incidentally is corrugated iron) is 109 feet. For those who do not know the size and shape of the building, it is in the shape of a "T" with the dome rising in the centre of the top over the base of a tower 80 feet high, the main roof to a height of over 250 feet. Main floor of the building is 52,000 square feet. Several other buildings adjoin this main building and one of these was utilized as is mentioned later.

Two 10-metre dipoles were erected at right angles to the tower, one 200 feet from the base of the dome (150 feet high), connected to the transmitter by 244 feet of co-axial cable.

A 5-metre dipole was mounted on a flagpole about 160 feet high at the western end of the building with a run of 200 feet of 75 ohm twin lead.

A 10-metre "plumber's delight" four element beam was mounted step of a 3 element close-spaced tower on 40 Mc. on the roof of the tower in the main stand, the base of the tower being 14 feet above floor level. These beams were not used during the Exhibition, being kept in rotation by a 24 volt d.c. motor continuously throughout the day.

A ve beam with 8 wavelengths (84 feet ap.) 20 Mc. was also very erect with the high end of the base of the tower fixed to the top of the dome (250 feet high). The lower ends were fixed, one atop of a street lamp post 25 feet high (permissible duly sought and granted), the other to a tower on the nearby Museum about 60 feet high. The beam was made of 1/2" gauge hard drawn copper, and has stood up to 100 miles of high winds. This beam faced East, towards U.S.A. and was coupled to the transmitter by means of a 300 ohm line about 250 feet long.

20 and 40 Mc. had folded dipoles made from 300 ohm line were strung from the other side of the room at the top of the dome to a flagpole 50 feet above the main roof, end to end with about 20 feet between them. These antennas did not stand up to the high winds, the ribbon of the 50 metre antenna snapping over the roof. This caused shorting the junction. After coming down twice, we ran a haloyd for the entire run in order to support them, but only had time string up the 40 metre dipole prior to the opening of the Exhibition.

To help display the simplest type of hamshack, an iron frame was built inside the building about 10 x 9 feet above the floor. So much for antennas. It does not sound much, but this occupied much tramping up and down the steps and stairs and clambering up and down the various large and small areas of roof covering the building. The main antenna (not the 20) of 10 wavelength was to the roof at the top of the dome involved climbing of some 160 steps and many landings to the bottom of a 60 foot vertical ladder with rungs spaced 2 feet apart. This had to be done "blind" with the aid of a pocket compass, as the dome with the aid of pocket compass, as the dome with the aid of the author well known at you as the author well known. After this, almost vertical stain lead to the "room" which was about 6 feet across, hexagonal shape—the last step before entering through a pair of doors being only wide enough for one to fit at. Well, we ask you—the joy of Ham Radio!

All this work was carried out in the few weeks before we had prior to the Show. In order to minimise the chance of damage to equipment at the location, many tests had to be carried out, not x 3, 6, 10 and 20 Mc. VE8WV Sunday broadcasts etc. were conducted. Main difficulty encountered was the shock excitation of receivers by the various commercial stations operating within a mile of the transmitter building and these regard, antennas had to be properly coupled to receiving, of course Faraday shields and for lower frequency operation, high pass filters.

Erection and design of the stand was our next problem. Due to our short time participation, our exact location was not known until about ten days before opening day. Jack Groves did a remarkable job as will as we will it will agree; the result of his work being the most agreeable presentation of amateur activity. The stand of the Exhibition was a very simple affair, having 40 feet deep at the centre (almost "U" shape), 60 feet across, and 20 feet deep at each side.

Some interesting comments of operation of the various items are as follows—

2ZG made continuous operation throughout the Exhibition, providing a good show for the visitors. Not unusually long distances were covered. A mobile station, operating over the whole metropolitan area, provided some unusual sightings and much public interest. Contacts were also had with a "walkie-talkie" in the building. "Walkie-talkie" also had contacts up to 5 miles outside the building on a

2 foot rod serial. Some interference from simultaneous transmissions on other bands resulted, but these did not hamper operations.

Six metres, likewise continuous operation, also made many contacts but no Interstate contacts. A few difficulties with harmonics from other transmitters.

Top metres—Good DX was worked, utilizing the 20 metre ve beam, but band could not be used much owing to poor conditions at various times.

Ten metres—Continuous operation, when not on 10 metres provided contact with 18 countries and 10 provinces, mostly, stimulated by amateur Ws making recordings of transmissions, played back and put over p.a. system.

Forty metres—Very little operation on this band as a transmitter was not available until the last two nights. No operation was made on 80.

Confidential electrical noise from the ignition system of the power plant, and aeroplanes also model railroads and a.c. motors on other stands caused us no little worry. However, over 60 contacts were made over the period of the Exhibition.

The transmitter display caused a great deal of interest, both the 1000 watt transmitter provided by Mr. Abraham Lincoln provided by a Phamatician loaned to us for the occasion by the Melbourne Technical College. This was not on view until the closing day as an oscilloscope was not available, although measurements were made to have two flown out from U.S.A. and they were still in transit at the close of the show. However, a running commentary over a small p.a. describing the apparatus (containing 55 tubes) was given and make-up of parts and how it worked, and the public could get some idea of just "how" it is done. The r.f. power supplies provided the necessary h.t. to the "camera" receiver, a.m.o. illustrating the raster and the o.r.a. projecting the final picture.

Outside electrical and radio interference did not upset the final picture although slight interference from the power plant was caused to some of the various receivers on the stand. The most serious and some experimentation could have abated the trouble if it had been bad. We knew that many, many hours were spent on this apparatus.

The large 1000 watt transmitter, the beam tower provided with the public to the main hall and he had to draw the crowd when it got thinner, also to locate missing persons and articles. There was the small boy who visited the show and should have been home by 3.30. His frantic parents were looking for him and he was found at home. Then the brother Ham tuning up the 20 metre transmitter dodged around holding the mike (not plugged in) and claimed there was no need of ululation.

Argument resulted as to whether one or both lamps of a twin lamp indicator should light when the transmitter and antenna are properly coupled. These twin lamps really work—try it and see—only the lamp nearest the transmitter should light. The 40 metre transmitter nearly caused a fire when a localised spark from the antenna to steel panel, burning out relay contacts. The lamps 2 or 3 inches and three people made separate dives to switches, one distributing board and fuses, and main switch—all located several feet apart. Radio was the a great yell came from all the operators. "It's on the air!" Somebody else went crazy because all the clocks stopped and had to be started again.

20 Mc. was dead one night until a 2L c.w. operator got on the mike; you should have heard the 2L. The following day he made a few contacts but the phone had to hand over to an O.H. before long.

The lad who saw the commercial television receiver, with the tube showing a few lines, remarking, "You should see the television set—it's gone blue in the face." and the sweet young lady who said, "Do you know Mrs. —, she works at the station" which advertisement on the front page of "A.M." Using the 300 ohm line to provide 200 watts for an iron to solder leads to the ve beam on top of the dome and running the Dom. W. via the 20 Mc. line to the transmitter. Also the o.r.a. And the young lady who wanted to know where all the crystal sets were.

Also the lad who was asked which model stand he had seen, "I don't know, I just saw it stand." Also the man of 70 who had known of radio since it was considered witch-craft in England.

The television picture was altered in horizontal gain to show different faces. Of course we just had to have a visit from a B.M.C. engineer to put it through its paces—was won't do.

In conclusion, the Exhibition Committee are really appreciative of the fine assistance given them by the general member, both "old faithful" and new faces. The exhibition was a great success, which helped to underline the continuing outstanding era of the whole show. No names have been mentioned as it was impossible to know who provided the most assistance.

We have learnt many lessons, the main one being that the average Ham is never prepared for a show such as this. Much planning is required to present

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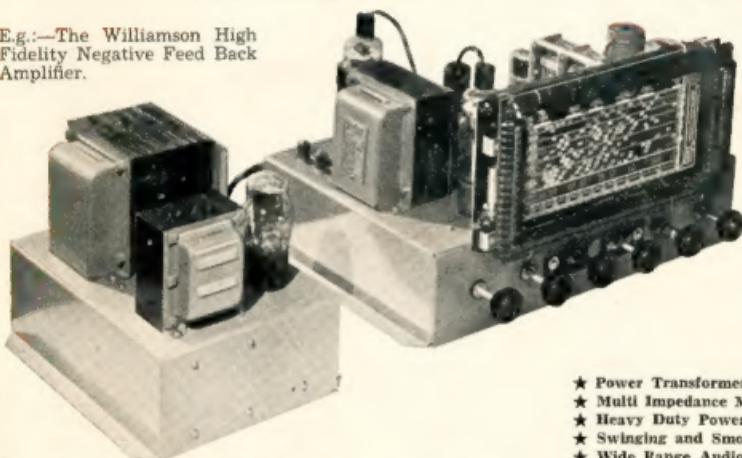
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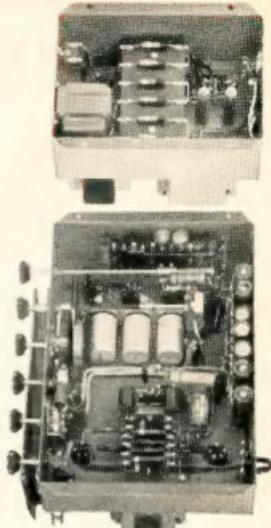
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MEDIUM SELECTIVITY—

Type J20 Interstage, Price 13/6 ea.

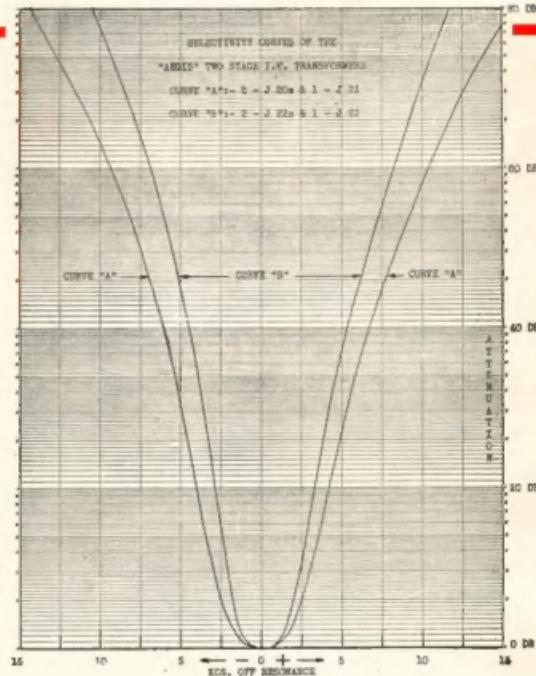
Type J21 Diode . . . Price 13/6 ea.

MAXIMUM SELECTIVITY—

Type J22 Interstage, Price 17/6 ea.

Type J23 Diode . . . Price 17/6 ea.

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